

REMARKS

Entry of the foregoing amendment, and reconsideration and withdrawal of the outstanding rejections is respectfully requested. Claims 1, 3 and 4 are pending in the application.

The Section 112 rejection is now moot. As the examiner noted, the marked up version of the amended claim 1 included the modifier "low" density polyethylene. The omission of that term from the clean version of the claim was a clerical error. The term has been reinserted into the clean version of the claim presented here. Notwithstanding the fact that the term appeared in the previous marked up version of the claim, the present marked up version shows the term as being added by underlining. It is respectfully submitted that this amendment to the claim moots the Section 112 rejection.

Applicants have also deleted from the claim the process limitation stating that the layers are produced through a coextrusion process. That limitation is not necessary to impart patentability to the claim. Moreover, the limitation could cause confusion as to whether the process step is necessary to patentability and/or infringement, and thus the elimination of that limitation more clearly identifies the subject matter that applicants believe to be their invention as simply the product, rather than a product coupled with a process.

Claims 1, 3, and 4 are newly rejected over Kohn et al (USPN 5,819,991) and Nakagawa (USPN 4,907,957, previously of record). Neither Kohn nor Nakagawa, individually or collectively, teaches or suggests the present invention. Moreover, the outstanding rejection fails to make a *prima facie* case for obviousness insofar as it fails to identify any motivation for combining the teachings of the two references in such a way as to arrive at the instant claims.

The claims of the instant invention require an extruded/blow molded bottle having an extruded wall structure comprising an intermediate layer of foamed plastic and outer layers of plastic. The foamed intermediate layer is a mixture of a first rigid polymer and a second ductile polymer. The first rigid polymer might be HDPE and/or high melt-strength polypropylene. The second polymer is selected from low density polyethylene and polypropylene. The plastic of the outer layer is the same as the rigid polymer of the foamed intermediate layer, *i.e.*, HDPE and/or high melt-strength polypropylene.

Kohn describes a bottle-type container made of an expanded plastics material, and which comprises a dimensionally resilient shell wall. The bottle is provided with a metering opening for metered dispensing of a liquid product within the container. The expanded plastics material is a polyolefin, such as polypropylene or polyethylene or their copolymerides. The outer skin can be composed of the same plastic material as the expanded plastics material or of a different plastics material. The expanded

plastics material is selected and fabricated such that the material is 10% - 30% less dense than the same plastics material in a non-expanded state. A barrier layer of a polyamide or ethylene vinyl alcohol can be interposed between this outer skin and the expanded shell wall.

Nakagawa describes low density polyethylene as the foamed intermediate layer of a three layer bottle. High density polyethylene constitutes the non-foamed outer layers.

The rejection fails to satisfy the requirements for a *prima facie* case of obviouness. All the claim limitations must be taught or suggested by the prior art. M.P.E.P. 2143.03. As discussed below, the rejection has failed to identify all the claimed limitations within the prior art. Nor has the rejection identified a suggestion or motivation to combine the prior art in such a way as to arrive at the present invention. M.P.E.P. 2143.01. Accordingly, the rejection fails to make out a *prima facie* case, and the rejection should be withdrawn.

The Kohn reference does not describe a bottle having an extruded wall structure comprising an intermediate layer of foamed plastic surrounded by outer, solid layers of plastic. Rather, Kohn describes and depicts a bottle container made of an expanded plastic material and a dimensionally resilient shell wall. *See* Figs 1-3, col. 1, line 55 - col. 2, line 12; and col. 3, line 25 - col. line 9. The expanded plastics

material is not intermediate between two outer layers of solid plastic as required by the present claims, and thus the reference does not teach or suggest that limitation.

As acknowledged within the rejection, Kohn fails to disclose the expanded plastics layer of the instant claims. Specifically, Kohn fails to teach or suggest a layer of expanded plastic comprising a blend of high and low density polyethylene, nor does it disclose a layer of expanded plastic comprising a rigid high density polyethylene and ductile low density polyethylene.

Kohn describes a single component foamed layer. Thus, Kohn fails to teach or suggest an extruded/blow molded bottle wherein the plastic of the outer, solid layer is the same as one or the other of the plurality of components of the foamed (expanded plastics) layer, *i.e.*, the rigid polymer of the foamed intermediate layer.

Likewise, Kohn fails to teach or suggest a foamed plastic layer wherein the mixing ratio of the first rigid polymer component to the second ductile polymeric component is between 1:3 and 3:1. While the rejection suggests that this limitation is merely optimization, the Office is obligated to show that one of ordinary skill in the art would have known that particular parameter was a result-effective variable.

M.P.E.P. 2144.05.II.B. ("A particular parameter must first be recognized as a result-effective variable, *i.e.*, a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation.") Thus, the rejection must show that it

would have been known at the time of the invention that the mixing ratio of the foamed polymers was a result effective variable. Here, however, the rejection has failed to provide any prior art that even includes a multi-component foamed layer, much less one that suggests that varying the mixing ratios of such polymers might be related to the desirable attributes applicants have obtained. Accordingly, the rejection fails to make a *prima facie* case of obviousness, at least with respect to the limitation specifying the mixing ratio of the pending claims.

Kohn teaches a structure quite different from that of the claimed invention. Kohn teaches a single component foamed layer, and requires a foamed layer of specified density and other highly specific criteria to produce a functional bottle consistent with the properties of the disclosed bottles. Indeed, Kohn states:

Only the density range and other features described assure that all the above mentioned requisite functions are fulfilled (in particular the avoidance of kinking). Significant deviations result in deterioration of properties relevant to serviceability such as a reduction of squeezeability and undesirable kinking or a loss of subjective product quality appeal and to unfavorable conditions for the manufacture of the container.

Thus, the Kohn reference itself teaches that the particular structure, properties, and parameters described therein should not be altered, and it cannot persuasively be argued that Kohn teaches or suggests the significant deviations necessary to arrive at the limitations of the claimed invention. This is particularly so in view of the fact that Kohn et al. themselves presumptively had the Nakagawa reference at their disposal.

Nonetheless, applicants will now demonstrate that Nakagawa fails to remedy the deficiencies of the Kohn reference. The rejection characterizes Nakagawa as describing low density polyethylene as the foamed intermediate layer of a three layer bottle. High density polyethylene constitutes the non-foamed outer layers.

As argued above with respect to Kohn, Nakagawa does not teach or suggest a multi-component expanded polymer layer. Rather, it discloses only a single component expanded polymer layer. As such, the reference does not teach or suggest a dual component foamed layer, much less the particular dual component foamed layer of the instant claims comprising a first rigid polymer and a second ductile polymer.

Moreover, the reference does not teach or suggest a combination of polymers in an intermediate foamed layer wherein the plastic of the outer solid layers is the same as the rigid polymer component of the dual component foamed intermediate layer. While the rejection argues that it would have been obvious to combine the plastics of the foamed layers of Kohn and Nakagawa to arrive at the foamed layer of the claimed invention, the rejection fails to identify or explain the motivation for making such a combination.

Nor does the argument identify or explain any motivation for linking the composition of the outer solid layers with the composition of the rigid component - it could just as easily have been the other way around. Such combinations and

arguments are hindsight reconstruction, and are improper. Reconsideration and withdrawal of the rejection is respectfully requested.

Nakagawa similarly fails to teach or suggest the claimed mixing ratio of the foamed layers of the claimed invention. As above, Nakagawa describes a single component expanded plastic layer. The reference neither teaches nor suggests any mixing ratio, much less the particular mixing ratio of the claimed invention. Accordingly, the rejection fails to make a *prima facie* case of obviousness, and the rejection should be withdrawn.

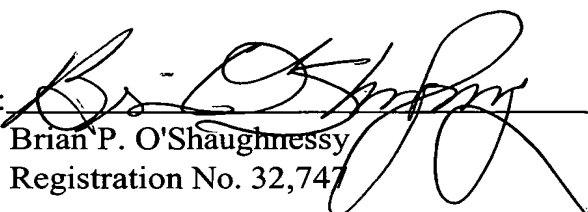
In view of the foregoing amendment and remarks, applicants respectfully submit that the claims, as amended, are now in condition for allowance. Applicants request reconsideration and withdrawal of all outstanding rejections, in favor of a formal notification of allowance. If, however, the examiner perceives any impediments to such a notification, applicants request that the examiner contact

applicants' attorney at the number provided below. Such informal communication will expedite examination and disposition of the present case.

Respectfully submitted,

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Attachment to Reply and Amendment Pursuant to 37 C.F.R. §1.111
dated November 7, 2002

Marked-up Claim 1.

1. (Thrice Amended) An extruded/blow molded bottle having an extruded wall structure comprising an intermediate layer of foamed plastic and outer, solid layers of plastic, wherein the plastic of the foamed intermediate layer is a mixture of a first, rigid polymer component being selected from the group consisting of high density polyethylene and high melt-strength polypropylene and a second ductile polymer component being selected from the group consisting of low density polyethylene and polypropylene, wherein the mixing ratio of the first rigid polymer component to the second ductile polymeric component in the foamed plastic layer is between 1:3 and 3:1, and said plastic of the outer, solid layers is the same as said rigid polymer component of the foamed intermediate layer [and in that all layers are produced through a coextrusion process].